The Productivity Burden of Migraine
And Evidence for Effective Care
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Agenda

About IBI

The Business Case for a Healthy Workforce

The Costs of Migraine in the Workforce

The Performance Impact of Migraine

Evidence for Effective Interventions
Among U.S. workers, migraine costs about $84 PEPY in excess healthcare treatments and lost work time.

- 27% for excess sick days and disability leaves
- Undercounts value of lost outputs, early exits from the labor force, excess turnover costs and presenteeism (underperformance on the job due to migraine)

Employees with migraine or severe headaches also report more difficulties concentrating at work, working carefully, and doing quality work

- But the association goes away when controlling for headache frequency
- This is consistent with the proposition that managing symptoms can preserve productivity
About IBI

• National, non-profit research and educational organization focused on workforce health and productivity
  • 1,300+ corporate members

• Help business leaders:
  • Understand the toll that illness takes on workers’ productivity
  • Recognize the competitive advantages of helping employees get and stay healthy

• Research, data, tools, peer-to-peer learning opportunities
The Business Case for a Healthy Workforce

Feel well, ready to work

On the job, performing well

Company delivers its products & services

Company meets its business objectives

Healthy, high performing people

Business Output

Business Performance
Some Measures that get Business Leaders Attention

*Link people’s health and wellbeing to...*

<table>
<thead>
<tr>
<th>HUMAN CAPITAL MANAGEMENT</th>
<th>BUSINESS OUTPUT</th>
<th>BUSINESS PERFORMANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee satisfaction/engagement</td>
<td>Store/unit sales</td>
<td>Revenues</td>
</tr>
<tr>
<td>Employee turnover</td>
<td>Billable hours</td>
<td>Profitability</td>
</tr>
<tr>
<td>HR costs per employee</td>
<td>Customer satisfaction</td>
<td>Shareholder value</td>
</tr>
<tr>
<td>Supervisor evaluations</td>
<td>Inventory turnover</td>
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<td>Service errors</td>
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<td>Product defects</td>
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<td></td>
<td>Process/product throughput</td>
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</tbody>
</table>
How Does Absence and Disability Leave Fit In?

Important lagging indicators of people’s health and their quality of care.

Critical driver of company’s productivity.

Provides a bridge between the impact of high quality care and business performance.
Costs of Migraine in the Workforce

- Medical and Rx treatment costs
- Sick day absences
- Short- and long-term disability
## Data Sources for Model Assumptions

<table>
<thead>
<tr>
<th>Data Source</th>
<th>Years</th>
<th>Data Elements</th>
<th>Estimation Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDC, National Health Interview Survey</td>
<td>2011-2016</td>
<td>Migraine prevalence</td>
<td>Descriptive</td>
</tr>
<tr>
<td>AHRQ, Medical Expenditure Panel Study</td>
<td>2011-2015</td>
<td>Treatment prevalence, Medical and Rx treatment costs, Sick day absences</td>
<td>Excess (marginal) costs and days, controlling for demographics and comorbidities</td>
</tr>
<tr>
<td>IBI, Health and Productivity Benchmarking</td>
<td>2011-2016</td>
<td>Short-term and long-term (STD &amp; LTD) claims rates, STD &amp; LTD annual lost work days</td>
<td>Product of rate × days</td>
</tr>
<tr>
<td>BLS, Occupational Employment and Employer Compensation surveys</td>
<td>2015</td>
<td>Daily wages and benefits</td>
<td>Apply average daily wages and benefits to total lost work days</td>
</tr>
</tbody>
</table>
Migraine Treatment Rates are Far Below Prevalence

- Twice as many women report migraine
- 5 times as many women have treatments

Source: Integrated Benefits Institute, 2018, Health and Productivity Impact of Chronic Conditions (HPICC): Migraine and Other Headaches
For Every 1,000 U.S. Workers, Migraine Costs $84,000

- Excess medical and Rx treatments: $61.2K
- Excess sick days: $18.1K
- STD claims: $2.5K
- LTD claims: $2.2K

For each person with migraine treatments...

- $2,000 per year in excess treatment costs
- 2.2 excess sick days per year ($600)

Source: Integrated Benefits Institute, 2018, Health and Productivity Impact of Chronic Conditions (HPICC): Migraine and Other Headaches
Few Disability Claims, Costly in Lost Work time

- 38 STD lost work days per claim, $10,200 in economic losses
- 178 LTD days per year ... but 1 in 3 episodes last at least 2 years

Source: Integrated Benefits Institute, Health and Productivity Impact of Chronic Conditions (HPICC): Migraine and Other Headaches
The Job Performance Impact of Migraine

“How often ... 
• Did you find yourself not working as carefully as you should?”

• Was the quality of your work lower than it should have been?”

• Did you not concentrate enough on your work?”
We Expect Migraineurs to Have More Challenges on the Job

- Migraine/headache history
- Frequency of Headaches
- Job performance
But Only When They Experience Headaches

Migraine/headache history → Job performance

We statistically control for headache frequency to simulate the possibilities for a well-managed condition.
Survey data come from the World Health Organization Health and Work Performance Questionnaire
  • Harvard Medical School provided 32,545 employee surveys collected from nine employers
• Questions about chronic conditions, symptoms, absence, and job performance
• Ordinal logistic regression model predicting employee’s probability of low, middle or high performance based on history of chronic headaches
  • Controlling for frequency of headaches
Employees with a History of Headaches Have More Impaired Performance than Others

Without controlling for headache frequency

<table>
<thead>
<tr>
<th>Headache history</th>
<th>% reporting low performance most of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>10.6%</td>
</tr>
<tr>
<td>&quot;Frequent &amp; severe&quot;</td>
<td>14.2%</td>
</tr>
<tr>
<td>Migraines</td>
<td>13.2%</td>
</tr>
</tbody>
</table>

Source: Integrated Benefits Institute, 2013, Sharing the Pain: The Productivity of Employees with Migraines and Chronic Severe Headaches

• % of workers reporting low performance (i.e., not concentrating, not working carefully, low quality work) most of the time

• Responses of employees with "frequent and severe" headaches statistically similar to employees with migraine
... All of Which Can Be Explained by How Often They Have Headaches

Controlling for headache frequency

- None: 10.6%
- "Frequent & severe" Headache history: 10.7%
- Migraines: 9.9%

- Other illness symptoms did not explain job performance differences across these groups.
- Suggests that helping chronic headache sufferers manage their headaches can improve their productivity on the job and their value to employers.

Source: Integrated Benefits Institute, 2013, Sharing the Pain: The Productivity of Employees with Migraines and Chronic Severe Headaches
Days missed due to illness over the last 28 days

- Without controlling for headache frequency:
  - None: 0.4
  - "Frequent & severe": 0.6
  - Migraines: 0.8

- Controlling for headache frequency:
  - None: 0.4
  - "Frequent & severe": 0.4
  - Migraines: 0.5

Source: Integrated Benefits Institute, 2013, Sharing the Pain: The Productivity of Employees with Migraines and Chronic Severe Headaches
Evidence for Effective Interventions

- Many treatment options
- Productivity benefits of interventions
- Guidance for employers
Many Treatment Options, Little Clarity

- Partial list includes pain relievers, triptans, ergots, cardiovascular drugs, anticonvulsants, antidepresants, botulinum toxin A, calcitonin gene-related peptide inhibitors
- Avoidance of “triggers”
- Behavioral therapy to minimize stress and anxiety
- Severity, frequency, and duration targets of different disease management strategies
Initial use of migraine-specific medications followed by pain medications can mitigate loss of work functioning. (Seng et al. 2017)

Triptans soon after the onset of headache—for example, within half an hour—associated with more rapid return to functioning. (Pradel et al. 2006)

Work accommodations can improve on-the-job performance among employees with painful conditions such as migraine. (Gifford and Zong 2017)

Migraine prophylactic therapy was found to decrease illness absences from work relative to placebo. (Lofland et al. 2007)
• Recognize the impact of migraine
  • Healthcare and disability claims will undercount productivity losses
  • Assess prevalence, common “non-clinical” interventions, and productivity losses through health risk assessments
• Promote migraine awareness in the workforce
• Develop benefit plans that cover a range of treatment options across different clinical specialties
Questions?

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References